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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

IN RE APPLICATION OF:	WITSCHEL ET AL.	MAIL STOP:	APPEAL BRIEF
SERIAL NO.	09/936,356	CONFIRMATION NO.:	4151
FILED:	SEPTEMBER 11, 2001	GROUP ART UNIT:	1626
FOR:	TRICYCLIC BENZOYLPYRAZOLE DERIVATIVES	EXAMINER:	R. L. ANDERSON

TO: HONORABLE COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450

I hereby certify that this correspondence is being facsimile transmitted on the date indicated below to Commissioner of Patents and Trademarks, Alexandria, Va 22313-1450, at: (571) 273-8300
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Sabine Berg
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Signature

Sir:

1. ☐ NOTICE OF APPEAL: Applicant hereby appeals to the Board of Appeals from the decision dated -/-, of the Primary Examiner finally rejecting Claims -/-.
2. ☒ BRIEF ON APPEAL in this application is transmitted herewith.
   ☐ Applicants hereby request an Oral Hearing.
3. ☒ Applicants hereby request entry of their timely reply dated *June 08, 2005*, for purposes of appeal.
4. ☒ Applicants hereby petition for a *-one-* month extension of time under 37 C.F.R. §1.136(a).
   ☐ A petition for a -/- month extension of time including the requisite fee of -/- has been submitted along with the reply under 37 C.F.R. §1.116 dated -/-.
5. ☒ The following fee(s) in the total amount of **-$ 620.00-** is(are) paid herewith by credit card (Form PTO-2038 enclosed):
   ☒ The *$ 500.00* fee required under 37 C.F.R. §41.20(b)(2).
   ☐ The -/- fee required under 37 C.F.R. §41.20(b)(3).
   ☒ The *$ 120.00* fee required under 37 C.F.R. §1.17(a).
   ☐ A fee is not required (Fee paid in prior appeal).
6. ☒ The Commissioner is hereby authorized to charge any fee which may be further required, or credit any over payment, to Deposit Account No. 14.1437. A duplicate copy of this sheet is attached.

Respectfully submitted,
NOVAK DRUCE DELUCA & QUIGG, LLP

Jason D. Voight
Reg. No. 42,205

09/19/2005 MBINAS 00000046 09936356
01 FC:1402 500.00 OP
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Honorable Commissioner
for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL UNDER 37 C.F.R. §41.37

Sir:

This is an appeal from the Examiner's final rejection of Claims 1, 5, 6, 8, 12, 14 to 16 and 23 dated February 16, 2005. Claims 1, 5 to 16, 18 to 21 and 23 are currently pending in the application.

TABLE OF CONTENTS

REAL PARTY IN INTEREST:

The real party in interest is BASF Aktiengesellschaft, 67056 Ludwigshafen, Germany.

RELATED APPEALS AND INTERFERENCES:

To the best of the undersigned's knowledge, there are no related appeals or interferences within the meaning of 37 C.F.R. §41.37(c)(1)(ii).

STATUS OF THE CLAIMS:

Claims 1, 5 to 16, 18 to 21 and 23 are currently pending in the application. The current status of those claims is as follows:

- Claims 1, 5, 6, 8, 12, 14 to 16 and 23 stand rejected;
- Claims 7, 9 to 11 and 13 stand allowed; and
- Claims 18 to 21 stand withdrawn from consideration.

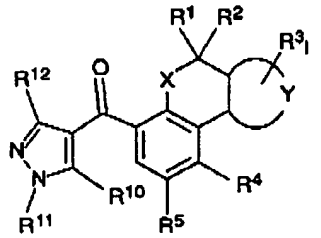
A Petition to the Commissioner under 37 C.F.R. §1.144 regarding the withdrawal of Claims 18 to 21 was filed by appellants on June 08, 2005. A decision on that Petition has as yet not been received.

STATUS OF THE AMENDMENTS:

No amendments have been filed in this application subsequent to the final rejection.

SUMMARY OF THE CLAIMED SUBJECT MATTER:

The rejected claims relate to tricyclic benzoylpyrazole compounds which are represented by formula (Ia)[1)]



(Ia)

and agriculturally useful salts thereof, in which

X is a bond;

Y together with the two carbons to which it is attached forms a 1,2-isoxazole ring which is satu-

1) Formula (Ia) differs from formula (I) as depicted in Claim 1 in that the radical designated as R^9 is replaced by the substructure (IIa). Cf., eg., Claim 1 and page 35, indicated lines 28 to 30, of the application.

rated, partially saturated or unsaturated;

R^1, R^2, R^6, R^7 are hydrogen, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_1–C_6–alkoxy or C_1–C_6–haloalkoxy;

R^3 is halogen, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_1–C_6–alkoxy or C_1–C_6–haloalkoxy;

R^4 is hydrogen, nitro, halogen, cyano, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_1–C_6–alkoxy, C_1–C_6–haloalkoxy, C_1–C_6–alkylthio, C_1–C_6–haloalkylthio, C_1–C_6–alkylsulfinyl, C_1–C_6–haloalkylsulfinyl, C_1–C_6–alkylsulfonyl, C_1–C_6–haloalkylsulfonyl, aminosulfonyl, N–(C_1–C_6–alkyl)aminosulfonyl, N,N–di(C_1–C_6–alkyl)aminosulfonyl, N–(C_1–C_6–alkylsulfonyl)amino, N–(C_1–C_6–haloalkylsulfonyl)amino, N–(C_1–C_6–alkyl)–N–(C_1–C_6–alkylsulfonyl)amino or N–(C_1–C_6–alkyl)–N–(C_1–C_6–haloalkylsulfonyl)amino;

R^5 is hydrogen, C_1–C_6–alkyl or halogen;

R^8 is hydrogen, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_1–C_6–alkylcarbonyl, formyl, C_1–C_6–alkoxycarbonyl, C_1–C_6–haloalkoxycarbonyl, C_1–C_6–alkylsulfonyl or C_1–C_6–haloalkylsulfonyl;

l is 0, 1 or 2;

R^{10} is hydroxyl, mercapto, halogen, OR^{13}, SR^{13}, SO_2R^{14}, $NR^{15}R^{16}$ or N–bonded heterocyclyl, where the heterocyclyl radical may be partially or fully halogenated and/or may carry one to three of the following radicals:
nitro, cyano, C_1–C_4–alkyl, C_1–C_4–haloalkyl, C_1–C_4–alkoxy or C_1–C_4–haloalkoxy;

R^{11} is hydrogen, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_3–C_6–cycloalkyl, hydroxyl, C_1–C_6–alkoxy or C_1–C_6–haloalkoxy;

R^{12} is hydrogen, halogen, C_1–C_6–alkyl, C_1–C_6–haloalkyl, hydroxyl, C_1–C_6–alkoxy, C_1–C_6–haloalkoxy, C_1–C_6–alkylthio or C_1–C_6–haloalkylthio;

R^{13} is C_1–C_6–alkyl, C_3–C_6–alkenyl, C_3–C_6–haloalkenyl, C_3–C_6–alkynyl, C_3–C_6–haloalkynyl, C_3–C_6–cycloalkyl, C_1–C_{20}–alkylcarbonyl, C_2–C_{20}–alkenylcarbonyl, C_2–C_6–alkynylcarbonyl, C_3–C_6–cycloalkylcarbonyl, C_1–C_6–alkoxycarbonyl, C_3–C_6–alkenyloxycarbonyl, C_3–C_6–alkynyloxycarbonyl, C_1–C_6–alkylthiocarbonyl, C_1–C_6–alkylaminocarbonyl, C_3–C_6–alkenylaminocarbonyl, C_3–C_6–alkynylaminocarbonyl, N,N–di(C_1–C_6–alkyl)aminocarbonyl, N–(C_3–C_6–alkenyl)–N–(C_1–C_6–alkyl)aminocarbonyl, N–(C_3–C_6–alkynyl)–N–(C_1–C_6–alkyl)aminocarbonyl, N–(C_1–C_6–alkoxy)–N–(C_1–C_6–alkyl)aminocarbonyl, N–(C_3–C_6–alkenyl)–N–(C_1–C_6–alkoxy)aminocarbonyl, N–(C_3–C_6–alkynyl)–N–(C_1–C_6–alkoxy)aminocarbonyl, di(C_1–C_6–alkyl)aminothiocarbonyl, C_1–C_6–alkylcarbonyl–C_1–C_6–alkyl, C_1–C_6–alkoxyimino–C_1–C_6–alkyl, N–(C_1–C_6–alkylamino)imino–C_1–C_6–alkyl or N,N–di(C_1–C_6–alkylamino)imino–C_1–C_6–alkyl, where the abovementioned alkyl, cycloalkyl and alkoxy radicals may be partially or fully halogenated and/or may carry one to three of the following groups:
cyano, C_1–C_4–alkoxy, C_1–C_4–alkylthio, di(C_1–C_4–alkyl)amino, C_1–C_4–alkylcarbonyl, C_1–C_4–alkoxycarbonyl, C_1–C_4–alkoxy–C_1–C_4–alkoxycarbonyl, di(C_1–C_4–alkyl)amino–C_1–C_4–alkoxycarbonyl, hydroxycarbonyl, C_1–C_4–alkylaminocarbonyl, di(C_1–C_4–alkyl)aminocarbonyl, aminocarbonyl, C_1–C_4–alkylcarbonyloxy or C_3–C_6–cycloalkyl;
is phenyl, heterocyclyl, phenyl–C_1–C_6–alkyl, heterocyclyl–C_1–C_6–alkyl, phenylcarbonyl–

C_1–C_6–alkyl, heterocyclylcarbonyl–C_1–C_6–alkyl, phenylcarbonyl, heterocyclylcarbonyl, phenoxycarbonyl, phenyloxythiocarbonyl, heterocyclyloxycarbonyl, heterocyclyloxythiocarbonyl, phenylaminocarbonyl, N–(C_1–C_6–alkyl)–N–(phenyl)aminocarbonyl, heterocyclylaminocarbonyl, N–(C_1–C_6–alkyl)–N–(heterocyclyl)aminocarbonyl, phenyl–C_2–C_6–alkenylcarbonyl or heterocyclyl–C_2–C_6–alkenylcarbonyl, where the phenyl and the heterocyclyl radical of the 18 lastmentioned substituents may be partially or fully halogenated and/or may carry one to three of the following radicals:
nitro, cyano, C_1–C_4–alkyl, C_1–C_4–haloalkyl, C_1–C_4–alkoxy, C_1–C_4–haloalkoxy, heterocyclyl or N–bonded heterocyclyl, where the two lastmentioned substituents for their part may be partially or fully halogenated and/or may carry one to three of the following radicals:
nitro, cyano, C_1–C_4–alkyl, C_1–C_4–haloalkyl, C_1–C_4–alkoxy or C_1–C_4–haloalkoxy;

R^{14} is C_1–C_6–alkyl, C_3–C_6–alkenyl, C_3–C_6–haloalkenyl, C_3–C_6–alkynyl, C_3–C_6–haloalkynyl, C_3–C_6–cycloalkyl, C_1–C_6–alkoxy, di(C_1–C_6–alkyl)amino or di(C_1–C_6–haloalkyl)amino, where the abovementioned alkyl, cycloalkyl and alkoxy radicals may be partially or fully halogenated and/or may carry one to three of the following groups:
cyano, C_1–C_4–alkoxy, C_1–C_4–alkylthio, di(C_1–C_4–alkyl)amino, C_1–C_4–alkylcarbonyl, C_1–C_4–alkoxycarbonyl, C_1–C_4–alkoxy–C_1–C_4–alkoxycarbonyl, di(C_1–C_4–alkyl)amino–C_1–C_4–alkoxycarbonyl, hydroxycarbonyl, C_1–C_4–alkylaminocarbonyl, di(C_1–C_4–alkyl)aminocarbonyl, aminocarbonyl, C_1–C_4–alkylcarbonyloxy or C_3–C_6–cycloalkyl;
is phenyl, heterocyclyl, phenyl–C_1–C_6–alkyl, heterocyclyl–C_1–C_6–alkyl, phenoxy, heterocyclyloxy, where the phenyl and the heterocyclyl radical of the lastmentioned substituents may be partially or fully halogenated and/or may carry one to three of the following radicals:
nitro, cyano, C_1–C_4–alkyl, C_1–C_4–haloalkyl, C_1–C_4–alkoxy or C_1–C_4–haloalkoxy;

R^{15} is C_1–C_6–alkyl, C_3–C_6–alkenyl, C_3–C_6–haloalkenyl, C_3–C_6–alkynyl, C_3–C_6–haloalkynyl, C_3–C_6–cycloalkyl, C_1–C_6–alkoxy, C_3–C_6–alkenyloxy, C_3–C_6–alkynyloxy, di(C_1–C_6–alkyl)amino or C_1–C_6–alkylcarbonylamino, where the abovementioned alkyl, cycloalkyl and alkoxy radicals may be partially or fully halogenated and/or may carry one to three radicals of the following group:
cyano, C_1–C_4–alkoxy, C_1–C_4–alkylthio, di(C_1–C_4–alkyl)amino, C_1–C_4–alkylcarbonyl, C_1–C_4–alkoxycarbonyl, C_1–C_4–alkoxy–C_1–C_4–alkoxycarbonyl, di(C_1–C_4–alkyl)amino–C_1–C_4–alkoxycarbonyl, hydroxycarbonyl, C_1–C_4–alkylaminocarbonyl, di(C_1–C_4–alkyl)aminocarbonyl, aminocarbonyl, C_1–C_4–alkylcarbonyloxy or C_3–C_6–cycloalkyl;
is phenyl, heterocyclyl, phenyl–C_1–C_6–alkyl or heterocyclyl–C_1–C_6–alkyl, where the phenyl or heterocyclyl radical of the four lastmentioned substituents may be partially or fully halogenated and/or may carry one to three of the following radicals:
nitro, cyano, C_1–C_4–alkyl, C_1–C_4–haloalkyl, C_1–C_4–alkoxy or C_1–C_4–haloalkoxy;

R^{16} is C_1–C_6–alkyl, C_3–C_6–alkenyl, C_3–C_6–alkynyl or C_1–C_6–alkylcarbonyl;[2] to some processes which are suitable for preparing the compounds;[3] to compositions comprising the compounds and the preparation thereof;[4] and to methods of using the compounds for controlling undesirable vegetation.[5]

GROUND(S) OF REJECTION TO BE REVIEWED

Whether the Examiner erred finding that the subject matter of Claims 1, 5, 6, 8, 12, 14 to 16 and 23 was unpatentable under 35 U.S.C. §103(a) for being rendered prima facie obvious by the teaching of ***Tseng*** (WO 97/19087).

ARGUMENT(S)

The Examiner stated that the teaching of ***Tseng*** generically encompassed positional isomers of the compounds referenced in appellants' claims, and that ***Tseng*** provided for methods for preparing said positional isomers, and for the use of said positional isomers as herbicides.[6] The Examiner argued that a person of ordinary skill in the art would have been motivated by the teaching of ***Tseng*** to produce appellants' compounds with the expectation that compounds which are similar in structure would show common properties, referring to the Court's holding in *In re Norris*, 179 F.2d 970, 84 USPQ 458 (CCPA 1950).[7]

It is respectfully urged by appellants that the Court's holding in *In re Norris* cannot reasonably be taken to support the Examiner's position that positional isomers of compounds are structurally similar compounds which can, per se, be expected to share common properties where, as here, the properties are biological effects. On the one hand, the Court in *In re Norris* inter alia emphasized the statements made in the earlier decision in *In re Hass*[8] : *"Whether novel chemical compounds are patentable over prior art isomers and homologues is a question to be determined in each case."*[9] In *In re Norris* the Court also quoted a textbook of *Norris* which states *"There are many organic compounds which have the same percentage composition; for example 107 compounds having the for-*

2) Cf. Claims 1, 5, 6 and 23; and page 1, indicated line 4, to page 5, indicated line 10, page 35, indicated line 39, to page 47, indicated line 2, page 47, indicated line 6, to page 106, indicated line 24, and page 131, indicated line 37, to page 143, indicated line 38, of the application.

3) Cf. Claims 8 and 12; and page 106, indicated line 31, to page 108, indicated line 33, and page 114, indicated line 15, page 116, indicated line 33, and page 131, indicated line 37, to page 143, indicated line 38, of the application.

4) Cf. Claims 14 and 15; and page 145, indicated line 1, to page 17, indicated line 44, of the application.

5) Cf. Claim 16; and page 143, indicated line 39, to page 144, indicated line 44, page 147, indicated line 46, to 149, indicated line 1, and page 149, indicated line 13, to page 150, indicated line 16, of the application.

6) Cf. page 4, lines 10 to 15, of the final Office action dated February 16, 2005.

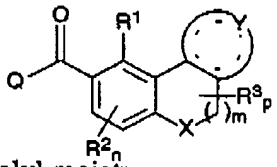
7) Cf. page 4, lines 15 to 21, of the final Office action dated February 16, 2005.

8) 141 F.2d 127, 60 USPQ 548 (CCPA 1944)

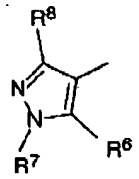
9) *In re Norris*, ibid. 84 USPQ at 461.

mula $C_9H_{11}O_2N$ have been described. Such compounds are called isomers (signifying equal measure) and the phenomenon is known as isomerism. *When two isomers resemble each other closely in chemical properties they are said to be* metameric. *(Italics quoted.)".*[9] The respective quote corroborates that isomerism is not, per se, sufficient to allege that two compounds resemble each other closely in their *chemical* properties. Accordingly, there is clearly no presumption in the chemical art that any two isomers resemble each other closely in their *biological* properties.[10]

The teaching of ***Tseng*** relates to herbicidal compounds which are, for example, represented by the following *generic* formula:



in which Q inter alia denotes a pyrazolyl moiety:



According to the teaching of ***Tseng*** it is therefore *mandatory* that a bicyclic system be condensed to the *meta* and the *para* position of the phenyl ring, relative to the moiety Q–C(=O)–. Variations within this substructure are according to the teaching of ***Tseng*** limited to variations within the definitions of R^1, R^2, R^3, X, Y, n, m and p, and it is *inter alia* mandatory that the carbonyl group takes a position on the phenyl ring which

a) is linked *ortho* to two phenyl carbon members which are not "bridged" by the other rings of the tricyclic system; and

b) is linked *meta* and *para* to two phenyl carbon members which are "bridged" by the other rings of the tricyclic system.

It is further mandatory that the phenyl ring of the tricyclic system and the ring Y of the tricyclic system are linked

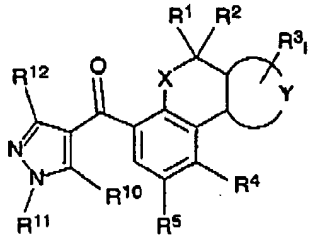
i) by a direct bond, and

ii) by a moiety $-X-(CH_2)_m-$ wherein m denotes 0, 1, or 2 (optionally substituted by up to p groups R^3);

and that the linkages (i) and (ii) originate from adjacent members of the phenyl ring and adjacent carbons of the ring Y.

10) Cf., for example, compounds having the formula C_2H_6O, ie. ethanol and dimethylether.

In contrast thereto, appellants' claims relate to compounds of formula (Ia)



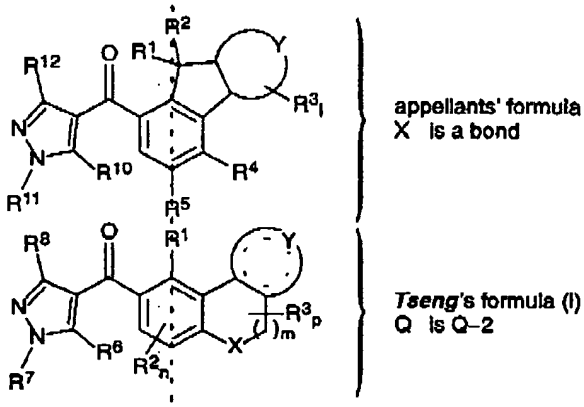
(Ia)

in which a particular bicyclic moiety is condensed to the the *ortho* and the *meta* position of the phenyl ring, relative to the moiety (pyrazol)-C(=O)- which are structurally distinguished from the compounds addressed in the teaching of *Tseng* because the carbonyl group in appellants' formula is not linked to the phenyl ring in a position

a) which is *ortho* to two phenyl carbon members which are not "bridged" by the other rings of the tricyclic system; or

b) which is *meta* and *para* to two phenyl carbon members which are "bridged" by the other rings of the tricyclic system.

The foregoing distinct structural differences between applicants' compounds and the compounds generically embraced by *Tseng*'s disclosure are further illustrated by the following representation:



To establish a prima facie case of obviousness under Section 103(a), three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations. It is essential in this context that the teaching or suggestion to make the claimed combination as well as the reasonable expectation of success be found in the prior art.[11] Correspondingly, it is impermissible in a determination of obviousness under Section 103(a) to base the teaching or suggestion to make the claimed combination and/or the reasonable expectation of

11) *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (CAFC 1991).

success on the applicant's disclosure.

The Examiner relied for the argument that a person of ordinary skill in the art would have been motivated to turn away from the mandatory structural requirements of *Tseng*'s compounds and to effect the structural changes which are necessary to arrive at appellants' compounds solely upon the Court's holding in *In re Norris*. The Court's respective holding is, however, as pointed out in the foregoing not suited to support a legal assumption that compounds which are positional isomers are prima facie obvious or are likely to exhibit similar biological properties. The teaching of *Tseng* equally fails to convey to a person of ordinary skill in the pertinent art that any positional isomers of the compounds addressed by *Tseng* can reasonably be expected to exhibit useful biological properties. Moreover, the teaching of *Tseng* fails to suggest or imply any one of the positional isomers which can be construed based upon *Tseng*'s formula. A person of ordinary skill in the pertinent art who selected the teaching of *Tseng* as a starting point for investigations into herbicidal compounds found in *Tseng*'s teaching therefore, at best, an invitation to make each of the various positional isomers and to find out whether one of those isomers exhibited any useful biological properties.[12] The teaching of *Tseng* can therefore at best be taken to suggest to a person of ordinary skill to try and find out whether there are useful compounds within the multitude of structural and positional variations that are possible. "*Obvious to try*" is, however, insufficient to render a claimed invention obvious within the meaning of Section 103(a):[13]

> *[i]nvention was merely "obvious to try" if the prior art gives either no indication of which parameters are critical or no direction as to which of the many possible choices is likely to be successful.*

The foregoing shows that there is no suggestion or motivation, either in the *Tseng* reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the compounds which are addressed by *Tseng* as is necessary to arrive at appellants' compounds. The foregoing also shows that the reasonable expectation of success is lacking when the compounds of *Tseng* are modified beyond the mandatory structural requirements and the definitions provided by *Tseng*. Finally, the teaching of *Tseng* cannot reasonably be taken to teach or suggest all of the limitations which characterize appellants' compounds. As such, none of the three basic criteria for establishing a prima facie case of obviousness under Section 103(a) is met where the teaching of *Tseng* and the subject matter of appellants' claims is concerned.

The Examiner also asserted that a showing of unexpected results was necessary to establish patentability of the subject matter of appellants' claims.[14] However, the legal concept of prima facie obviousness is a procedural tool of examination which allocates who has the burden of going forward

---

12) In doing so, a person of ordinary skill in the art would, of course, also have to permute *Tseng*'s groups, particularly Q, X and Y, within –and allowing for isomers, beyond– the definitions provided by the reference.

13) *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, (874 F.2d 804, 10 USPQ2d 1843 (CAFC 1989).

14) Cf. page 4, lines 19 to 21, of the final Office action dated February 16, 2005.

with the production of evidence in each step of the examination process.[15] The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, then the applicant is under no obligation to submit evidence of nonobviousness.[16] Here, the Examiner has not met the initial burden of factually supporting that the subject matter of appellants' claims is rendered prima facie obvious. Appellants are therefore not deemed to be under an obligation to submit evidence of nonobviousness.

CONCLUSION

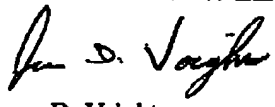
For the foregoing reasons, appellants respectfully urge that the Examiner erred finding that the subject matter of appellants' Claims 1, 5, 6, 8, 12, 14 to 16 and 23 was unpatentable under the provisions of 35 U.S.C. §103(a) in light of the teaching of *Tseng* (WO 97/19087). It is respectfully requested that the Examiner's respective rejection be reversed. Favorable action is solicited.

REQUEST FOR EXTENSION OF TIME:

It is respectfully requested that a *one* month extension of time be granted in this case. The respective *$120.00* fee is paid by credit card (Form PTO-2038 enclosed).

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account No. 14.1437. Please credit any excess fees to such deposit account.

Respectfully submitted,
NOVAK DRUCE DELUCA & QUIGG, LLP



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Encl.: Claims Appendix

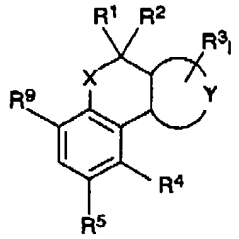
JDV/BAS

15) Cf., eg., In re Linter, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972); In re Saunders, 444 F.2d 599, 170 USPQ 213 (CCPA 1971); In re Warner, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968).

16) Cf. MPEP §2142, page 2100-128, Rev. 2, May 2004.

CLAIMS APPENDIX:

1. A tricyclic benzoylpyrazole compound of formula I



I

where:

X is a bond;

Y together with the two carbons to which it is attached forms a 1,2-isoxazole ring which is saturated, partially saturated or unsaturated;

R^1, R^2, R^6, R^7 are hydrogen, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_1–C_6–alkoxy or C_1–C_6–haloalkoxy;

R^3 is halogen, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_1–C_6–alkoxy or C_1–C_6–haloalkoxy;

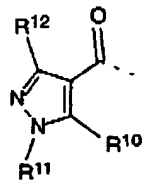
R^4 is hydrogen, nitro, halogen, cyano, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_1–C_6–alkoxy, C_1–C_6–haloalkoxy, C_1–C_6–alkylthio, C_1–C_6–haloalkylthio, C_1–C_6–alkylsulfinyl, C_1–C_6–haloalkylsulfinyl, C_1–C_6–alkylsulfonyl, C_1–C_6–haloalkylsulfonyl, aminosulfonyl, N–(C_1–C_6–alkyl)aminosulfonyl, N,N–di(C_1–C_6–alkyl)aminosulfonyl, N–(C_1–C_6–alkylsulfonyl)amino, N–(C_1–C_6–haloalkylsulfonyl)amino, N–(C_1–C_6–alkyl)–N–(C_1–C_6–alkylsulfonyl)amino or N–(C_1–C_6–alkyl)–N–(C_1–C_6–haloalkylsulfonyl)amino;

R^5 is hydrogen, C_1-C_6-alkyl or halogen;

R^8 is hydrogen, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_1–C_6–alkylcarbonyl, formyl, C_1–C_6–alkoxycarbonyl, C_1–C_6–haloalkoxycarbonyl, C_1–C_6–alkylsulfonyl or C_1–C_6–haloalkylsulfonyl;

l is 0, 1 or 2;

R^9 is a radical IIa



IIa

where

R^{10} is hydroxyl, mercapto, halogen, OR^{13}, SR^{13}, SO_2R^{14}, $NR^{15}R^{16}$ or N-bonded heterocyclyl, where the heterocyclyl radical may be partially or fully halogenated and/or may carry one to three of the following radicals:

nitro, cyano, C_1–C_4–alkyl, C_1–C_4–haloalkyl, C_1–C_4–alkoxy or C_1–C_4–haloalkoxy;

R^{11} is hydrogen, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_3–C_6–cycloalkyl, hydroxyl, C_1–C_6–alkoxy or C_1–C_6–haloalkoxy;

R^{12} is hydrogen, halogen, C_1–C_6–alkyl, C_1–C_6–haloalkyl, hydroxyl, C_1–C_6–alkoxy, C_1–C_6–haloalkoxy, C_1–C_6–alkylthio or C_1–C_6–haloalkylthio;

R^{13} is C_1–C_6–alkyl, C_3–C_6–alkenyl, C_3–C_6–haloalkenyl, C_3–C_6–alkynyl, C_3–C_6–haloalkynyl, C_3–C_6–cycloalkyl, C_1–C_{20}–alkylcarbonyl, C_2–C_{20}–alkenylcarbonyl, C_2–C_6–alkynylcarbonyl, C_3–C_6–cycloalkylcarbonyl, C_1–C_6–alkoxycarbonyl, C_3–C_6–alkenyloxycarbonyl, C_3–C_6–alkynyloxycarbonyl, C_1–C_6–alkylthiocarbonyl, C_1–C_6–alkylaminocarbonyl, C_3–C_6–alkenylaminocarbonyl, C_3–C_6–alkynylaminocarbonyl, N,N–di(C_1–C_6–alkyl)aminocarbonyl, N–(C_3–C_6–alkenyl)–N–(C_1–C_6–alkyl)aminocarbonyl, N–(C_3–C_6–alkynyl)–N–(C_1–C_6–alkyl)aminocarbonyl, N–(C_1–C_6–alkoxy)–N–(C_1–C_6–alkyl)aminocarbonyl, N–(C_3–C_6–alkenyl)–N–(C_1–C_6–alkoxy)aminocarbonyl, N–(C_3–C_6–alkynyl)–N–(C_1–C_6–alkoxy)aminocarbonyl, di(C_1–C_6–alkyl)aminothiocarbonyl, C_1–C_6–alkylcarbonyl–C_1–C_6–alkyl, C_1–C_6–alkoxyimino–C_1–C_6–alkyl, N–(C_1–C_6–alkylamino)imino–C_1–C_6–alkyl or N,N–di(C_1–C_6–alkylamino)imino–C_1–C_6–alkyl, where the abovementioned alkyl, cycloalkyl and alkoxy radicals may be partially or fully halogenated and/or may carry one to three of the following groups:

cyano, C_1–C_4–alkoxy, C_1–C_4–alkylthio, di(C_1–C_4–alkyl)amino, C_1–C_4–alkylcarbonyl, C_1–C_4–alkoxycarbonyl, C_1–C_4–alkoxy–C_1–C_4–alkoxycarbonyl, di(C_1–C_4–alkyl)amino–C_1–C_4–alkoxycarbonyl, hydroxycarbonyl, C_1–C_4–alkylaminocarbonyl, di(C_1–C_4–alkyl)aminocarbonyl, aminocarbonyl, C_1–C_4–alkylcarbonyloxy or C_3–C_6–cycloalkyl;

is phenyl, heterocyclyl, phenyl–C_1–C_6–alkyl, heterocyclyl–C_1–C_6–alkyl, phenylcarbonyl–C_1–C_6–alkyl, heterocyclylcarbonyl–C_1–C_6–alkyl, phenylcarbonyl, heterocyclylcarbonyl, phenoxycarbonyl, phenyloxythiocarbonyl, heterocyclyloxycarbonyl, heterocyclyloxythiocarbonyl, phenylaminocarbonyl,

N-(C_1–C_6–alkyl)–N–(phenyl)aminocarbonyl, heterocyclylaminocarbonyl, N-(C_1–C_6–alkyl)–N–(heterocyclyl)aminocarbonyl, phenyl–C_2–C_6–alkenylcarbonyl or heterocyclyl–C_2–C_6–alkenylcarbonyl, where the phenyl and the heterocyclyl radical of the 18 lastmentioned substituents may be partially or fully halogenated and/or may carry one to three of the following radicals:

nitro, cyano, C_1–C_4–alkyl, C_1–C_4–haloalkyl, C_1–C_4–alkoxy, C_1–C_4–haloalkoxy, heterocyclyl or N–bonded heterocyclyl, where the two lastmentioned substituents for their part may be partially or fully halogenated and/or may carry one to three of the following radicals:

nitro, cyano, C_1–C_4–alkyl, C_1–C_4–haloalkyl, C_1–C_4–alkoxy or C_1–C_4–haloalkoxy;

R^{14} is C_1–C_6–alkyl, C_3–C_6–alkenyl, C_3–C_6–haloalkenyl, C_3–C_6–alkynyl, C_3–C_6–haloalkynyl, C_3–C_6–cycloalkyl, C_1–C_6–alkoxy, di(C_1–C_6–alkyl)amino or di(C_1–C_6–haloalkyl)amino, where the abovementioned alkyl, cycloalkyl and alkoxy radicals may be partially or fully halogenated and/or may carry one to three of the following groups:

cyano, C_1–C_4–alkoxy, C_1–C_4–alkylthio, di(C_1–C_4–alkyl)amino, C_1–C_4–alkylcarbonyl, C_1–C_4–alkoxycarbonyl, C_1–C_4–alkoxy–C_1–C_4–alkoxycarbonyl, di(C_1–C_4–alkyl)amino–C_1–C_4–alkoxycarbonyl, hydroxycarbonyl, C_1–C_4–alkylaminocarbonyl, di(C_1–C_4–alkyl)aminocarbonyl, aminocarbonyl, C_1–C_4–alkylcarbonyloxy or C_3–C_6–cycloalkyl;

is phenyl, heterocyclyl, phenyl–C_1–C_6–alkyl, heterocyclyl–C_1–C_6–alkyl, phenoxy, heterocyclyloxy, where the phenyl and the heterocyclyl radical of the lastmentioned substituents may be partially or fully halogenated and/or may carry one to three of the following radicals:

nitro, cyano, C_1–C_4–alkyl, C_1–C_4–haloalkyl, C_1–C_4–alkoxy or C_1–C_4–haloalkoxy;

R^{15} is C_1–C_6–alkyl, C_3–C_6–alkenyl, C_3–C_6–haloalkenyl, C_3–C_6–alkynyl, C_3–C_6–haloalkynyl, C_3–C_6–cycloalkyl, C_1–C_6–alkoxy, C_3–C_6–alkenyloxy, C_3–C_6–alkynyloxy, di(C_1–C_6–alkyl)amino or C_1–C_6–alkylcarbonylamino, where the abovementioned alkyl, cycloalkyl and alkoxy radicals may be partially or fully halogenated and/or may carry one to three radicals of the following group:

cyano, C_1–C_4–alkoxy, C_1–C_4–alkylthio, di(C_1–C_4–alkyl)amino, C_1–C_4–alkylcarbonyl, C_1–C_4–alkoxycarbonyl, C_1–C_4–alkoxy–C_1–C_4–alkoxycarbonyl, di(C_1–C_4–alkyl)amino–C_1–C_4–alkoxycarbonyl, hydroxycarbonyl, C_1–C_4–alkylaminocarbonyl, di(C_1–C_4–alkyl)aminocarbonyl, aminocarbonyl, C_1–C_4–alkylcarbonyloxy or C_3–C_6–cycloalkyl;

is phenyl, heterocyclyl, phenyl–C_1–C_6–alkyl or heterocyclyl–C_1–C_6–alkyl, where the phenyl or heterocyclyl radical of the four lastmentioned substituents may be partially or fully halogenated and/or may carry one to three of the following radicals:

nitro, cyano, C_1–C_4–alkyl, C_1–C_4–haloalkyl, C_1–C_4–alkoxy or C_1–C_4–haloalkoxy;

R^{16} is C_1–C_6–alkyl, C_3–C_6–alkenyl, C_3–C_6–alkynyl or C_1–C_6–alkylcarbonyl;

or an agriculturally useful salt thereof.

5. The tricyclic benzoylpyrazole compound of formula I defined in claim 1 where

R^1, R^2 are hydrogen;

R^3 is C_1–C_6–alkyl;

R^4 is nitro, halogen, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_1–C_6–alkoxy, C_1–C_6–alkylthio or C_1–C_6–alkylsulfonyl;

R^5 is hydrogen;

l is 0 or 1.

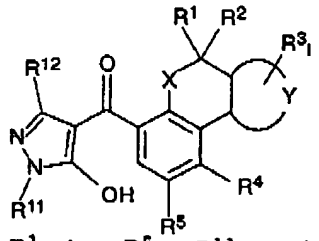
6. The tricyclic benzoylpyrazole compound of formula I defined in claim 1 where

R^{10} is hydroxyl;

R^{11} is C_1–C_6–alkyl or C_3–C_6–cycloalkyl;

R^{12} is hydrogen or C_1–C_6–alkyl.

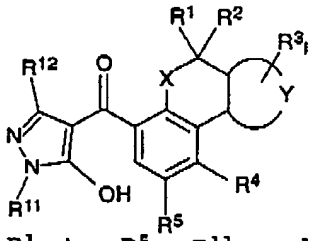
7. A process for preparing the compound of formula I where R^{10} = halogen as claimed in claim 1, which comprises reacting a tricyclic benzoylpyrazole compound of formula Iα (= I where R^{10} = hydroxyl),



Iα

where the variables R^1 to R^5, R^{11} and R^{12}, X, Y and l are as defined in claim 1, with a halogenating agent.

8. A process for preparing the compound of formula I where $R^{10} = OR^{13}$ as claimed in claim 1, which comprises reacting a tricyclic benzoylpyrazole compound of formula Iα (= I where R^{10} = hydroxyl),



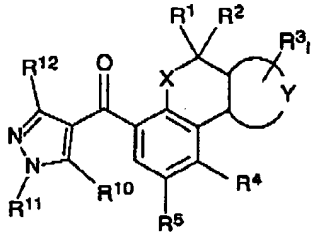
Iα

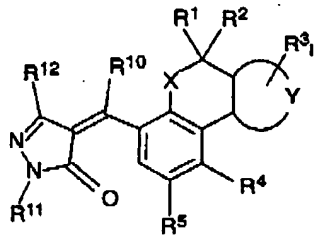
where the variables R^1 to R^5, R^{11} and R^{12}, X, Y and l are as defined in claim 1, with a compound of formula III

$$L^1\text{–}R^{13} \qquad \text{III}$$

where the variable R^{13} is as defined in claim 1 and L^1 is a nucleophilically replaceable leaving group.

9. A process for preparing the compound of formula I where R^{10} = OR^{13}, SR^{13}, $NR^{15}R^{16}$ or N–bonded heterocyclyl as claimed in claim 1, which comprises reacting a compound of formula Iβ (≡ I where R^{10} = halogen),





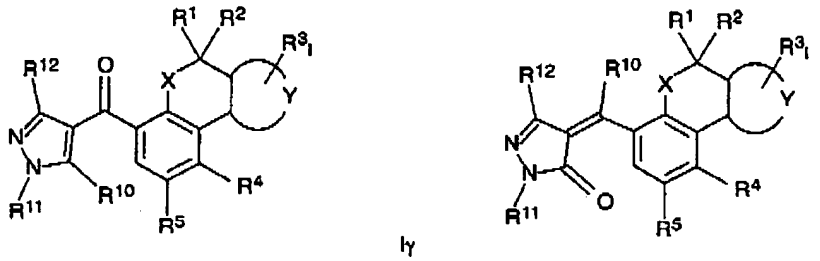
Iβ

where the variables R^1 to R^5, R^{11} and R^{12}, X, Y and l are as defined in claim 1, with a compound of formula IVα, IVβ, IVγ or IVδ

HOR^{13}	HSR^{13}	$NHR^{15}R^{16}$	H(N–bonded heterocyclyl)
IVα	IVβ	IVγ	IVδ

where the variables R^{13} to R^{16} are as defined in claim 1, optionally in the presence of a base.

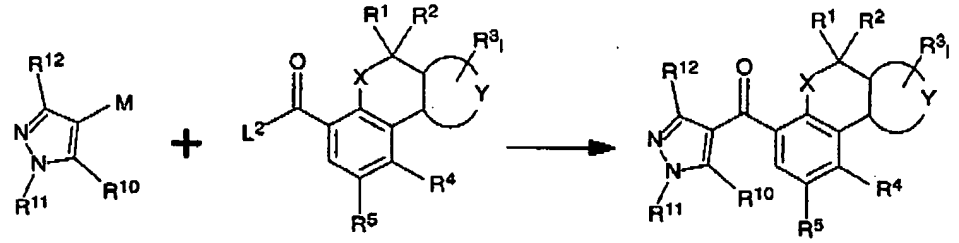
10. A process for preparing the compound of formula I where R^{10} = SO_2R^{14} as claimed in claim 1, which comprises reacting a compound of formula Iγ (≡ I where R^{10} = SR^{14}),



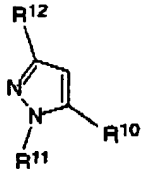
Iγ

where the variables R^1 to R^5, R^{11} and R^{12}, X, Y and l are as defined in claim 1, with an oxidizing agent.

11. A process for preparing the compound of formula I as claimed in claim 1, which comprises reacting a metalated pyrazole compound of formula V where M is a metal and R^{10} to R^{12} are as defined in claim 1, except for R^{10} = hydroxyl and mercapto, with a tricyclic benzoic acid compound of formula VIα where R^1 to R^5, X, Y and l are as defined in claim 1 and L^2 is a nucleophilically replaceable leaving group.

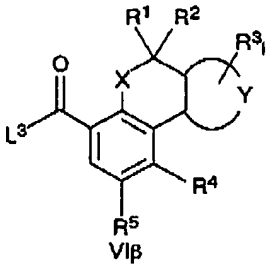


12. A process for preparing the compound of formula Iα (= I where R^{10} = hydroxyl) as claimed in claim 1, which comprises acylating a pyrazole of formula VII in which the variables R^{11} and R^{12} are as defined in claim 1

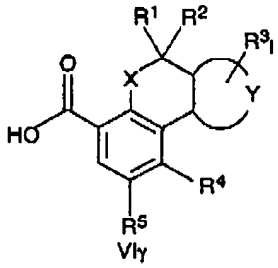


VII

with an activated tricyclic benzoic acid of formula VIβ or with a tricyclic benzoic acid of formula VIγ,



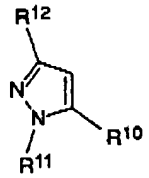
VIβ



VIγ

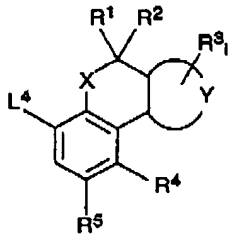
where the variables R^1 to R^5, X, Y and l are as defined in claim 1 and L^3 is a nucleophilically replaceable leaving group, and rearranging the acylation product, optionally in the presence of a catalyst.

13. A process for preparing the compound of formula Iα (≡ I where R^{10} = hydroxyl) as claimed in claim 1, which comprises reacting a pyrazole of formula VII in which the variables R^{11} and R^{12} are as defined in claim 1, or an alkali metal salt thereof,



VII

with a tricyclic benzene compound of formula IX where L^4 is a leaving group and the variables X, Y, R^1 to R^5 and l are as defined in claim 1



IX

in the presence of carbon monoxide, a catalyst and a base.

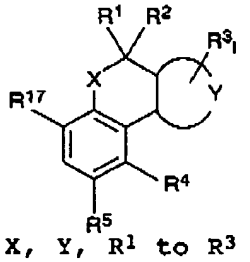
14. A composition, comprising a herbicidally effective amount of at least one compound of formula I or an agriculturally useful salt thereof as claimed in claim 1 and auxiliaries which are customary for formulating crop protection agents.

15. A process for preparing the composition defined in claim 14, which comprises mixing a herbicidally effective amount of at least one compound of formula I or an agriculturally useful salt

thereof and auxiliaries which are customary for formulating crop protection agents.

16. A method for controlling undesirable vegetation, which comprises allowing a herbicidally effective amount of at least one compound of formula I or an agriculturally useful salt thereof as claimed in claim 1 to act on plants, their habitat or on seed.

18. A tricyclic benzoic acid compound of formula VI



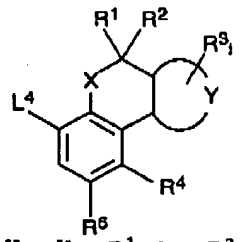
VI

in which the variables X, Y, R^1 to R^3 and R^5 and l are as defined in claim 1 and

R^4 is nitro, halogen, cyano, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_1–C_6–alkoxy, C_1–C_6–haloalkoxy, C_1–C_6–alkylthio, C_1–C_6–haloalkylthio, C_1–C_6–alkylsulfinyl, C_1–C_6–haloalkylsulfinyl, C_1–C_6–alkylsulfonyl, C_1–C_6–haloalkylsulfonyl, aminosulfonyl, N–(C_1–C_6–alkyl)aminosulfonyl, N,N–di(C_1–C_6–alkyl)aminosulfonyl, N-(C_1–C_6–alkylsulfonyl)amino, N-(C_1–C_6–haloalkylsulfonyl)amino, N-(C_1–C_6–alkyl)-N-(C_1–C_6–alkylsulfonyl)amino or N-(C_1–C_6–alkyl)-N-(C_1–C_6–haloalkylsulfonyl)amino;

R^{17} is hydroxyl or a radical which can be removed by hydrolysis.

19. A tricyclic benzene compound of formula IX



IX

in which the variables X, Y, R^1 to R^3 and R^5 and l are as defined in claim 1 and

R^4 is nitro, halogen, cyano, C_1–C_6–alkyl, C_1–C_6–haloalkyl, C_1–C_6–alkylthio, C_1–C_6–haloalkylthio, C_1–C_6–alkylsulfinyl, C_1–C_6–haloalkylsulfinyl, C_1–C_6–alkylsulfonyl, C_1–C_6–haloalkylsulfonyl, aminosulfonyl, N–(C_1–C_6–alkyl)aminosulfonyl, N,N–di(C_1–C_6–alkyl)aminosulfonyl, N–(C_1–C_6–alkylsulfonyl)amino, N–(C_1–C_6–haloalkylsulfonyl)amino, N–(C_1–C_6–al-

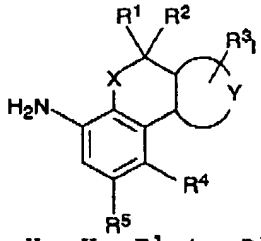
kyl)–N–(C_1–C_6–alkylsulfonyl)amino or N–(C_1–C_6–alkyl)–N–(C_1–C_6–haloalkylsulfonyl)amino;

R^5 is hydrogen or C_1-C_6-alkyl;

L^4 is halogen, C_1–C_6–alkylsulfonyloxy, C_1–C_6–haloalkylsulfonyloxy or phenylsulfonyloxy, where the phenyl ring of the lastmentioned radical may be unsubstituted or partially or fully halogenated and/or may carry one to three of the following radicals:

nitro, cyano, C_1–C_4–alkyl, C_1–C_4–haloalkyl, C_1–C_4–alkoxy or C_1–C_4–haloalkoxy.

20. An aniline compound of formula XV

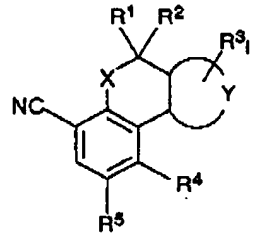


XV

in which the variables X, Y, R^1 to R^3 and R^5 and l are in each case as defined in claim 1 and

R^4 is nitro, halogen, cyano, C_1–C_6–haloalkyl, C_1–C_6–alkoxy, C_1–C_6–haloalkoxy, C_1–C_6–alkylthio, C_1–C_6–haloalkylthio, C_1–C_6–alkylsulfinyl, C_1–C_6–haloalkylsulfinyl, C_1–C_6–alkylsulfonyl, C_1–C_6–haloalkylsulfonyl, aminosulfonyl, N–(C_1–C_6–alkyl)aminosulfonyl, N,N–di(C_1–C_6–alkyl)aminosulfonyl, N–(C_1–C_6–alkylsulfonyl)amino, N–(C_1–C_6–haloalkylsulfonyl)amino, N–(C_1–C_6–alkyl)–N–(C_1–C_6–alkylsulfonyl)amino or N–(C_1–C_6–alkyl)–N–(C_1–C_6–haloalkylsulfonyl)amino.

21. A nitrile compound of formula XVI



XVI

in which the variables X, Y, R^1 to R^3 and l are in each case as defined in claim 1 and

R^4 is nitro, halogen, cyano, C_1-C_6-haloalkyl, C_1-C_6-alkylthio, C_1-C_6-haloalkylthio, C_1-C_6-alkylsulfinyl, C_1-C_6-haloalkinyl-

sulfinyl, C_1-C_6-alkylsulfonyl, C_1-C_6-haloalkylsulfonyl, aminosulfonyl, N-(C_1-C_6-alkyl)aminosulfonyl, N,N-di-(C_1-C_6-alkyl)aminosulfonyl, N-(C_1-C_6-alkylsulfonyl)amino, N-(C_1-C_6-haloalkylsulfonyl)amino, N-(C_1-C_6-alkyl)-N-(C_1-C_6-alkylsulfonyl)amino or N-(C_1-C_6-alkyl)-N-(C_1-C_6-haloalkylsulfonyl)amino;

R^5 is hydrogen or C_1-C_6-alkyl.

23. The compound of formula I defined in claim 1, wherein R^{10} is hydroxyl, mercapto, halogen, OR^{13}, SR^{13}, SO_2R^{14} or $NR^{15}R^{16}$.